

4th grade Ohio Mathematics Benchmarks “Batter Up”

Mathematics Benchmarks

Number, Number Sense and Operations

- A. Use place value structure of the base-ten number system to read, write, represent and compare whole numbers and decimals.
- B. Recognize and generate equivalent representations for whole numbers, fractions and decimals.
- C. Represent commonly used fractions and mixed numbers using words and physical models.
- D. Use models, points of reference and equivalent forms of commonly used fractions to judge the size of fractions and to compare, describe and order them.
- H. Use relationships between operations, such as subtraction as the inverse of addition and division as the inverse of multiplication.
- J. Estimate the results of whole number computations using a variety of strategies, and judge the reasonableness.
- K. Analyze and solve multi-step problems involving addition, subtraction, multiplication and division of whole numbers.
- L. Use a variety of methods and appropriate tools (mental math, paper and pencil, calculators) for computing with whole numbers.
- M. Add and subtract commonly used fractions with like denominators and decimals, using models and paper and pencil.

Patterns, Functions and Algebra

- A. Analyze and extend patterns, and describe the rule in words.
- B. Use patterns to make predictions, identify relationships and solve problems.
- E. Use variables to create and solve equations representing problem situations.

Mathematical Processes

- A. Apply and justify the use of a variety of problem-solving strategies; e.g., make an organized list, guess and check.

- B. Use an organized approach and appropriate strategies to solve multi-step problems.
- C. Interpret results in the context of the problem being solved.
- D. Use mathematical strategies to solve problems that relate to other curriculum areas and the real world.
- G. Use reasoning skills to determine and explain the reasonableness of a solution with respect to the problem situation.
- H. Recognize basic valid and invalid arguments, and use examples and counter examples, models, number relationships and logic to support or refute.
- I. Represent problem situations in a variety of forms and recognize when some ways of representing a problem may be more helpful than others.
- J. Read, interpret, discuss and write about mathematical ideas and concepts using both everyday and mathematical language.
- K. Use mathematical language to explain and justify mathematical ideas, strategies and solutions.